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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Mitsuo Honma

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EXAMINER

ROSATI, BRANDON MICHAEL

ART UNIT

PAPER NUMBER

3744

NOTIFICATION DATE

DELIVERY MODE

06/18/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/585,319	<b>Applicant(s)</b> HONMA, MITSUO	
	<b>Examiner</b> BRANDON M. ROSATI	<b>Art Unit</b> 3744	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37-56 is/are pending in the application.
- 4a) Of the above claim(s) 45-52, 54 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-44, 53, and 56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/18/2010</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 45-52, 54, and 55 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Applicant had originally submitted claims which read on Figure 1 only. However, newly submitted claims 45-52, 54, and 55, read only on Figure 3. If there has been claims drawn to these two separate embodiments, they would have been subject to the restriction requirement as set forth below.

2. This application contains claims directed to the following patentably distinct species.

- Species A- Figure 1
- Species B- Figure 3

3. The species are independent or distinct because the types of fins which are utilized are different for each embodiment. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims appear to be generic.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

The Examiner would have to perform a variety of different text searches to find the different features of the different embodiments unique to each heat sink.

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**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.**

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

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4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 45-52, 54, and 55 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Drawings***

5. The drawings were received on 3/23/2010. These drawings are ACCEPTED.

***Specification***

6. The specification and abstract were received on 3/23/2010. The specification and abstract are ACCEPTED.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 37-39, 42, 44, 53, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A).

Regarding claims 37 and 53, Andersson et al. disclose in Figures 2, 3a, and 3b, all the claimed limitations including a heat sink (i.e. heat exchanger) comprising fins (2), which are metal wires wound into coils, both right handed and left handed (see Figures 3a and 3b), a thermally conductive base plate (1), with agglutinant (i.e. welds) (as per claim 53) and the coils are in close contact with one another to form air gaps and have contact parts (i.e. part contacting the base). It is noted that nothing in the claim says that the coils must physically touch. Although Andersson et al. show the use of both left handed and right handed coils individually used, it

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does not should the use of both right handed and left handed coils on the base simultaneously(Column 2, lines 10-54). However, Hopkins disclose in Figure 3, a base plate which has right handed and left handed coils. Hence, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the teachings of Andersson et al. with the coils of Hopkins because this configuration would allow for the coils to be easily placed on the base, thus making the manufacturing of the device simpler.

Regarding claim 38, the combined teachings of Andersson et al. and Hopkins disclose the contact parts being thermally coupled (see Andersson et al. Figure 2).

Regarding claim 39, the combined teachings of Andersson et al. and Hopkins disclose fins (2) which are disposed relative to the base in a standing manner (see Andersson et al. Figure 2).

Regarding claim 42, the combined teachings of Andersson et al. and Hopkins disclose flat surfaces of the fins (i.e. bottoms) arranged parallel to the base plate (see Andersson et al. Figure 2).

Regarding claims 44 and 56, the combined teachings of Andersson et al. and Hopkins disclose flat metal wires (see Andersson et al. Figures 3a and 3b).

9. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A) in further view of Marukasa (JP 05166982 A) .

Regarding claim 40, the combined teachings of Andersson et al. and Hopkins disclose all the claimed limitations except having the fins be disposed in a groove. However, Marukasa disclose in Figure 1, fins which are in a groove in the base plate. Hence, it would have been

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obvious to one of ordinary skill in the art, at the time the invention was made, to modify the combined teachings of Andersson et al. and Hopkins with the groove in the base plate of Marukasa, because this would allow for more surface area of the fins to be in contact with the base plate, thus increasing the overall amount of heat transfer.

Regarding claim 41, the combined teachings of Andersson et al. Hopkins, and Marukasa disclose all the claimed limitations including the fins being thermally coupled to the groove (see Figure 1 of Marukasa).

10. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A) in further view of Kimura (JP 03014300 A).

Regarding claims 43, the combined teachings of Andersson et al. and Hopkins disclose all the claimed limitations except utilizing ferrite powder in the heat sink. However, Kimura discusses the concept of utilizing a heat sink (see abstract). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the combined teachings of Andersson et al. and Hopkins with the ferrite powder of Kimura because the powder would allow for noise to be shielded without losing heat sink effect. It is noted that Kimura teaches a general teachings of ferrite powder on the base (i.e. plate) and thus the ferrite powder would fill the voids between the fins and the base plate.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 37-44, 53, and 56 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Orihira et al. (U.S. Patent No. 5,685,363) discusses a coil.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON M. ROSATI whose telephone number is (571)270-3536. The examiner can normally be reached on Monday-Friday 8:00am- 4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on (571) 272-4834 or (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMR 6/10/2010	/Cheryl J. Tyler/ Supervisory Patent Examiner, Art Unit 3744
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